

Attorney Docket No. TI-31620
Application No.: 10/085,753
Customer No.: 23494

AMENDMENTS TO THE CLAIMS:

The following is a complete listing of all claims, including amendments, with a status identifier in parenthesis.

Listing of Claims

Claim 1. (Currently Amended): A method for removing particles on semiconductor wafers, comprising the steps of:

forming an oxide film at least 2.5 Angstroms thick on a surface of a semiconductor wafer while performing a first cleaning process in which semiconductor wafers are cleaned for a prescribed time by immersing them in a first cleaning solution consisting of ultra-pure water containing a prescribed quantity of ozone in a first cleaning tank, wherein the prescribed time in the first cleaning process is in the range of 3 to 20 minutes; and

performing a second cleaning process in which said semiconductor wafers are cleaned for a prescribed time by immersing them in a second cleaning solution consisting of ultra-pure water containing 0.3 ppm to 0.4 ppm of hydrogen in a second cleaning tank, wherein ultrasonic waves are supplied to said second cleaning solution in said second process.

Claim 2 (Original): A method for removing particles on semiconductor wafers as described in claim 1, further comprising the step of, between said first cleaning process

Attorney Docket No. TI-31620
Application No.: 10/085,753
Customer No.: 23494

and said second cleaning process, performing a third cleaning process in which said semiconductor wafers are cleaned for a prescribed time by immersing them in a third cleaning solution consisting of ultra-pure water in a third cleaning tank.

Claim 3 (Original): A method for removing particles on semiconductor wafers as described in claim 1, further comprising the step of, after said second cleaning process, performing a fourth cleaning process in which said semiconductor wafers are cleaned for a prescribed time by immersing them in a fourth cleaning solution consisting of HF mixed solution in a fourth cleaning tank.

Claim 4 (Canceled)

Claim 5 (Original): A method for removing particles on semiconductor wafers as described in claim 1, wherein an in-solution concentration of ozone in said first cleaning solution is in the range 2 ppm to 20 ppm.

Claim 6 (Canceled)

Claim 7 (Canceled)

Claim 8 (Currently Amended): A method for removing particles on semiconductor wafers as described in claim 1, wherein the prescribed time in said [[first and]] second cleaning [[processes]] process is in the range 3 to 20 minutes.

Attorney Docket No. TI-31620
Application No.: 10/085,753
Customer No.: 23494

Claim 9 (Cancelled)

Claim 10 (New): A method of removing particles on a semiconductor wafer, comprising:

forming an oxide film at least 2.5 Angstroms thick on a surface of a semiconductor wafer during a first cleaning process in which the semiconductor wafer is cleaned for a prescribed time by immersing the semiconductor wafer in a first cleaning solution consisting of ultra-pure water containing a prescribed quantity of ozone in a first cleaning tank, wherein the prescribed time in the first cleaning process is in the range of 3 to 20 minutes; and

performing a second cleaning process in which the semiconductor wafer is cleaned for a prescribed time by immersing the semiconductor wafer in a second cleaning solution consisting of ultra-pure water containing a prescribed quantity of hydrogen in a second cleaning tank, wherein ultrasonic waves are supplied to said second cleaning solution in said second process.

Claim 11 (New): A method for removing particles on a semiconductor wafer as described in claim 10, further comprising, between said first cleaning process and said second cleaning process, performing a third cleaning process in which the semiconductor wafer is cleaned for a prescribed time by immersing the semiconductor wafer in a third cleaning solution consisting of ultra-pure water in a third cleaning tank.

Attorney Docket No. TI-31620
Application No.: 10/085,753
Customer No.: 23494

Claim 12 (New): A method for removing particles on semiconductor wafers as described in claim 10 further comprising, after said second cleaning process, performing a fourth cleaning process in which the semiconductor wafer is cleaned for a prescribed time by immersing the semiconductor wafer in a fourth cleaning solution consisting of an HF mixed solution in a fourth cleaning tank.

Claim 13 (New): A method for removing particles on semiconductor wafers as described in claim 10, wherein an in-solution concentration of ozone in said first cleaning solution is in the range 2 ppm to 20 ppm.

Claim 14 (New): A method for removing particles on a semiconductor wafer as described in claim 10, wherein the prescribed time in said second cleaning process is in the range 3 to 20 minutes.